

## FORECASTING AS ONE OF THE MOST IMPORTANT POINTS TO MAKE BUSINESS DECISIONS

M. HART<sup>1</sup>

<sup>1</sup>*Continental Corporation, Inc.*

**ABSTRACT:** The forecasts are one of the most important inputs to make managerial decisions. [1] The process of the demand level forecasting is fundamental to an entire business company. This process of the forecasts creation provides essential inputs to a planning and a control of the all functional parts of a business company. The basic functional parts of a business company are the logistics, the marketing, the production and the financial department.

The demand level and it's timing considerably affect the production capacities and a need of the financial resources. Each of the functional parts in a business company has got its individual problems that are solved by process of the demand forecast creation. [2]

**KEYWORDS:** Forecasting, Demand, Planning, Sales Forecasting, 5SI

### 1 FORECASTING PROCESS VS. PLANNING PROCESS

The sales forecasting is a projection of a demand level into the future under given conditions of the outdoor environment. The main goal of the sales forecasting process is a creation of demand level forecasts within the frame of a given environment. The forecast accuracy and the market environment observation, in which a demand forecast is made, play the important role in it's own process to sales forecast. [3]

The sales plan is a set of the specific managerial actions that must be taken to reach or overfullfillment of the sales forecasts. The main goal is to meet or to overfulfil a sales plan, thus to provide the sales goals to marketing and sales department. These sales goals should be based on a forecasted future demand. The other goal is a motivation to meet or overfulfil the defined goals in the sales field. [3]

### 2 THE NEED OF THE FUTURE SALES FORECAST CREATION

For a creation of any plan it's necessary to forecast a sales into the future in a given business environment. Thus, the sales forecasting process is one of the inputs to plan creation at the all business levels. It's also reasonable to remark that it's necessary to be familiar with the approaches to make forecast at the particular business levels.

The different business functions need the sales forecast in the different time horizons, at the different levels and at the different time intervals.

For these purposes it's distinguished the 5 basic business levels:

- the marketing department
- the sales department
- the financial department or the accounting department
- the production department and the purchasing department
- the logistics department.

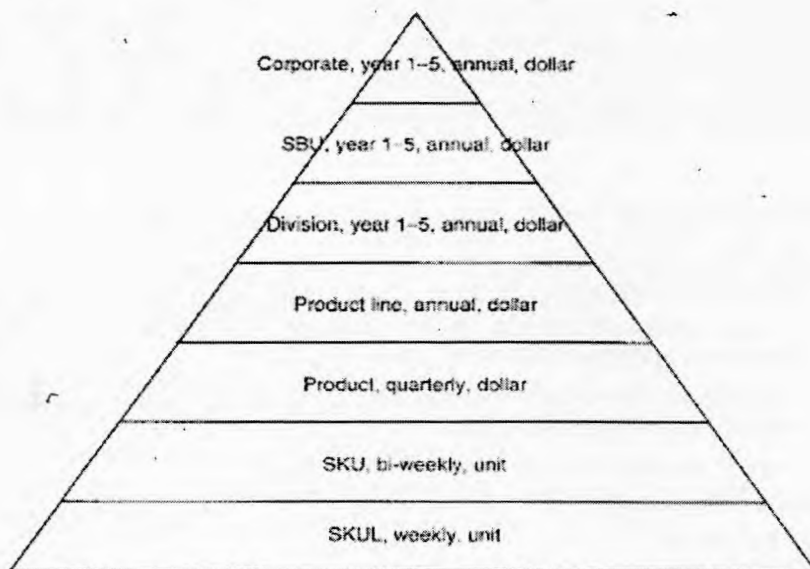
The general survey of the forecasting process utilization at the different managerial levels of a business company is stated in the following table.

**Table 1** The general survey of the forecasting process utilization at the particular managerial levels in a business company [4]

	Marketing	Sales	Finance / Accounting	Production / Purchasing Long term character	Production / Purchasing Short term character	Logistics Long term character	Logistics Short term character
<b>Need</b>	Annual plans (monthly or quarterly updated) for going or new products, promotions, price setting	Setting goals for sales and motivation of sales department to overfulfill defined goals	Planning of costs and profits and also capital assets	Planning plant development and plant equipment	Planning particular production series	Planning of storage areas development and car fleet	Specific decisions, which product, in which quantity to allocate to chosen business territory and when
<b>Level</b>	Product or product line	Business territory or particular customers	Business divisions, product lines	Product (SKU)	Product (SKU)	Product allocated to particular locations (SKUL)	Product allocated to particular locations (SKUL)
<b>Horizon</b>	Annual	1 to 2 years	1 to 5 years	1 to 3 years	1 to 6 months	Month to few years	Daily, weekly, monthly
<b>Interval</b>	Monthly or quarterly	Monthly or quarterly	Monthly or quarterly	Quarterly	Daily, weekly, monthly	Monthly	Daily, weekly, monthly
<b>Form</b>	Currency	Currency	Currency	Quantity	Quantity	Quantity	Quantity

### 3 THE HIERARCHY OF THE FORECASTS CREATION

The following figure illustrates the particular levels at which it's possible to create forecasts. Well, step by step, the logistics department requires forecasts at the SKUL level with weekly updating. The purchasing department and the production department require forecast which is updated every second week, and this forecast is at the SKU level. The sales department needs forecast represented in a currency, and at the level of the particular products, an up-dating is quarterly. The marketing department requires the annual sales forecasts represented in a currency and at the level of the particular production lines, and at horizon at least 5 years for particular divisions. And concerning the financial department, well, it requires annual sales forecasts represented in a currency for the 5 next years and at levels of the particular business units (SBU) and further for all business company or corporation. [4]



**Figure 1** The hierarchy of the particular levels to create the forecasts [4]

## 4 THE FUNCTIONAL SILOS

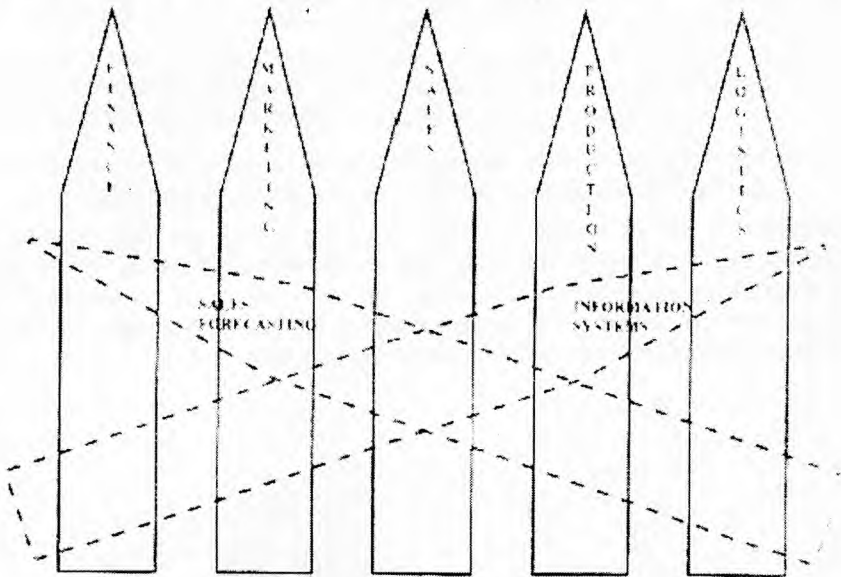
If we have a look at marketing, sales, production / purchasing, finance and logistics department like the separated managerial functions or silos then we can find other two business functions which in reality integrate 5 basic business functions (5SI).

Information system integrates 5SI – that means, it obtains information from the all 5SI and distributes the information back where necessary to particular business functional areas.

Sales forecasting system integrates also 5SI – that means, it requires information on marketing plans, sales plans, production plans and purchasing schedules, logistics capacities for creation and for backward distribution of needed forecasts. In addition, each of the 5SI needs a sales forecast in the required detail (SKU, SKUL, production line, etc.) and in the required time horizon and also each of the 5SI requires updating plan of forecasts at the needed time intervals. All is required to create effective plans. [3]

The sales forecasting system needs the information system, by which, it distributes the forecasts to particular 5SI.

That means, 5SI are integrated each other with the aid the information system and the system to create forecasts. Thus, 5SI are interconnected through these two systems. [3]



**Figure 2** The illustration of the integration 5SI through the information system and the forecasting system [3]

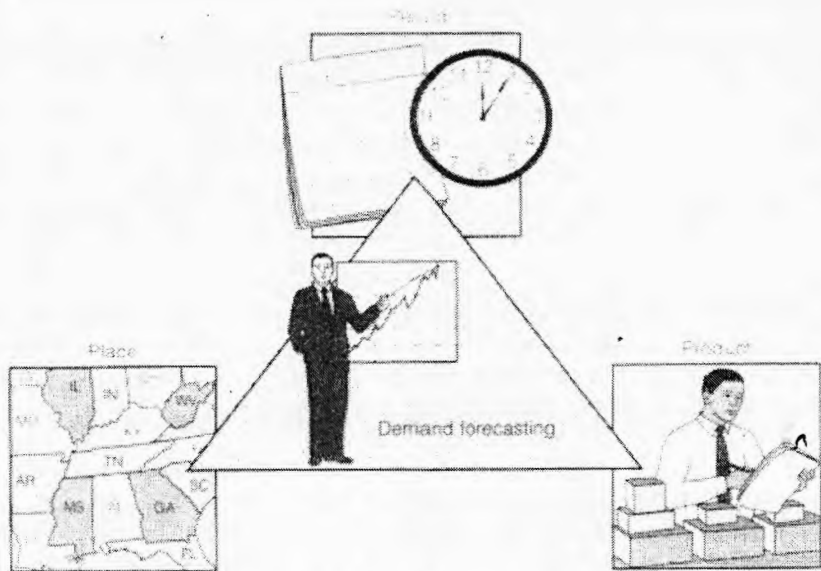
## 5 THE FOUNDATION OF THE INTEGRATED SYSTEM FOR DEMAND FORECASTING

The one of the biggest contribution of the effective system to demand management is a creation of a compact forecast within the frame of the all business levels.

The demand forecasting is realized in different details:

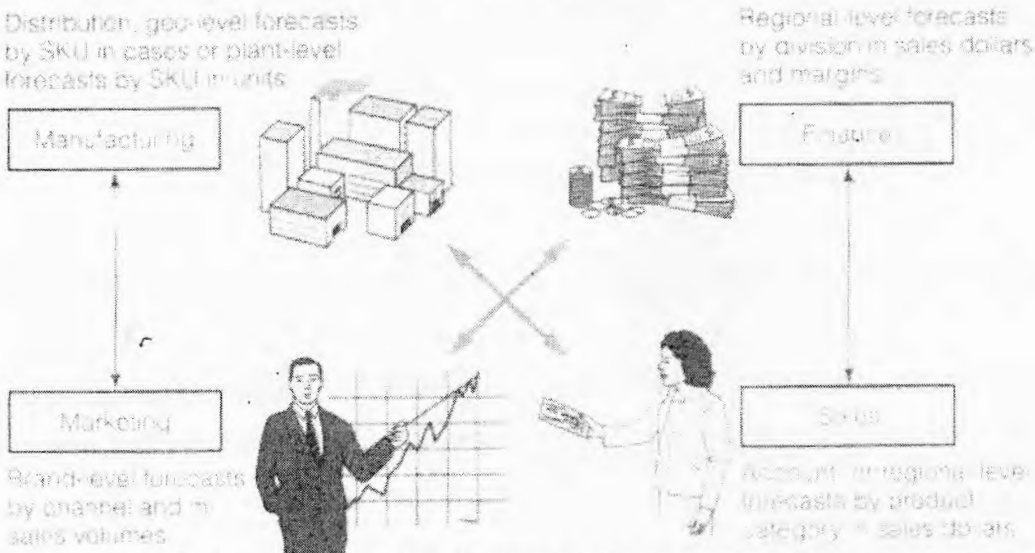
- Time detail – annual, quarterly, monthly, daily, hourly
- Detail of the product hierarchy – product category, product brand, product unit
- Detail of the demand location – segments (global, national), geographical customer location.

As mentioned above few times, the process of the demand forecasting is realized at different business levels, in the different details concerning a time, a customer location and a product hierarchy. [5]



**Figure 3** The multilevel hierarchy of the demand forecasting process / for defined time span, for concrete customer location and for concrete product portfolio [5]

The planning process should be organized hierarchically in each business company. One can found a strategic planning, a tactical planning and an operational planning in the all business structure. The strategic planning is realized one a year or in the larger time spans. The tactical planning is made quarterly, monthly or weekly. Each of the planning process mentioned above requires the different types of forecasts as the inputs to planning process. [5]



**Figure 4** The planning process at the different business levels requires the different types of forecasts as the inputs to planning process [5]

## 6 CONCLUSION

The demand forecasting is constantly repeating process in itself which affects sales, marketing, inventory management, production and all other parts of a supply chain. The effective process of the demand forecasting leads us to lower costs and increases of the customer services. If the process of the demand forecasting has been the main element in a supply chain, so it would be contribution to improvements of a system designed for a distribution of the right goods to the right locations in the right time. [6]

## 7 REFERENCES

- [1] JOHN E. HANKE, DEAN W. WICHERN: Business Forecasting with Student CD Package, 8<sup>th</sup> Edition; New Jersey 2005 Prentice Hall; ISBN 0-13-122856-0
- [2] RONALD H. BALLOU: Business Logistics/Supply Chain Management, 5th Edition; New Jersey 2004 Prentice Hall; ISBN 0-13-107659-0
- [3] JOHN T. MENTZER, CAROL C. BIENSTOCK: Sales Forecasting Management; London 1998 Sage Publications, Inc.; ISBN 0-7619-0823-4
- [4] JOHN T. MENTZER, MARK A. MOON: Sales Forecasting Management: A Demand Management Approach; London 2005 Sage Publications, Inc.; ISBN 1-4129-0571-0
- [5] HANS LEVENBACH, JAMES P. CLEARY: Forecasting – Practice and Process for Demand Management; Toronto 2006 Thomson Brooks / Cole; ISBN 0-534-26268-6
- [6] MARTIN HART: The Integrated System to Manage Inventory on The Basis of Demand Level Forecasting; In Processing, Dissertation Thesis; VSB-TU Ostrava

**Reviewer:** doc. Ing. Radim Lenort, Ph.D.